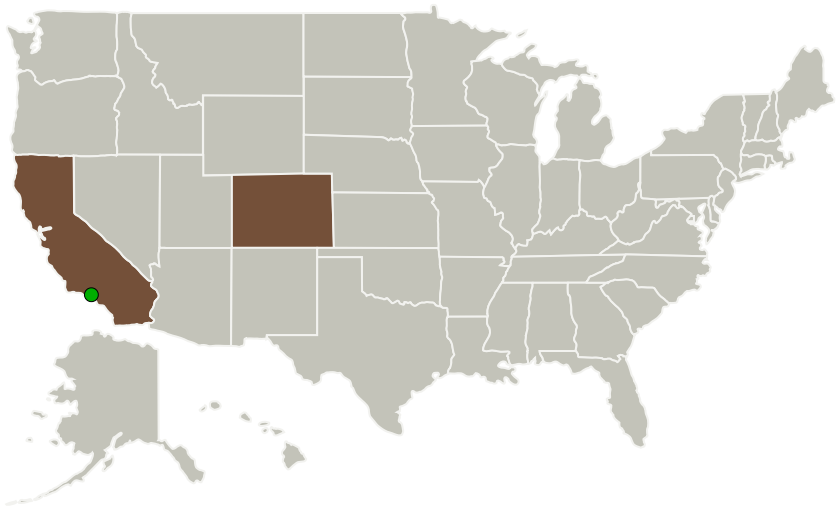
# Solar Array for a Starshade Inner Disk, Phase I

Completed Technology Project (2016 - 2016)

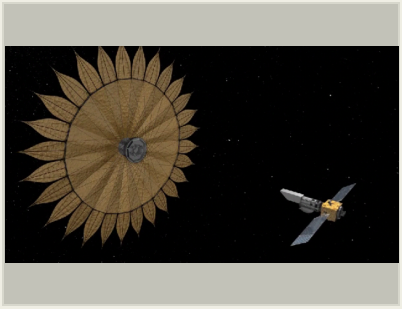
## Project Introduction

This Ph1 program will focus on integrating viable solar cell blanket assemblies onto the inner disk of a starshade. The Phase I will design and analyze structural interfaces, harness requirements, harness routing, survival and durability for packaging, launch and on-orbit environmental requirements. The program will involve numerous hardware demonstration units and testing. The inner disk of the baseline starshade is approximately 20 m in diameter. This large surface area is an ideal location for solar arrays which will allow for solar electric propulsion. SEP will allow the starshade to transition to new orbit positions relative to the telescope more efficiently which will expand the exoplanet science during the mission lifetime.

## Primary U.S. Work Locations and Key Partners



| Organizations Performing Work | Role | Type | Location |
|---|---|---|---|
| Tendeg LLC | Lead Organization | Industry<br>Small Disadvantaged Business (SDB) | Louisville, Colorado |
| Jet Propulsion Laboratory(JPL) | Supporting Organization | NASA Center | Pasadena, California |



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| Primary U.S. Work Locations | |
|---|---|
| California | Colorado |

## Project Transitions

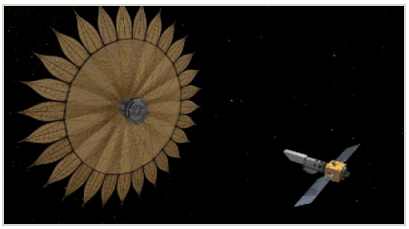
**June 2016:** Project Start

**December 2016:** Closed out

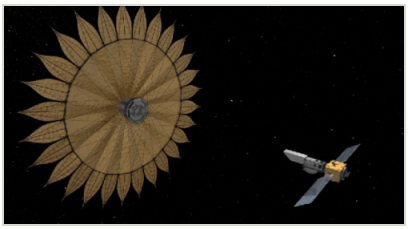
**Closeout Documentation:**

- Final Summary Chart*(https://techport.nasa.gov/file/139749)*

## Images



**Briefing Chart Image**
Solar Array for a Starshade Inner Disk, Phase I
*(https://techport.nasa.gov/image/130487)*



**Final Summary Chart Image**
Solar Array for a Starshade Inner Disk, Phase I Project Image
*(https://techport.nasa.gov/image/127314)*

## Organizational Responsibility

**Responsible Mission Directorate:**
Space Technology Mission Directorate (STMD)

**Lead Organization:**
Tendeg LLC

**Responsible Program:**
Small Business Innovation Research/Small Business Tech Transfer

## Project Management

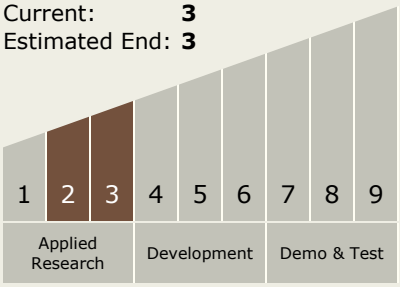
**Program Director:**
Jason L Kessler

**Program Manager:**
Carlos Torrez

**Principal Investigator:**
Neal Beidleman

## Technology Maturity (TRL)

Start: **2**
Current: **3**
Estimated End: **3**



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## Technology Areas

**Primary:**

- TX08 Sensors and Instruments
  - TX08.2 Observatories
    - TX08.2.2 Structures and Antennas

## Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System